

Information Retrieval

Design and Sources

Roslina Othman



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INFORMATION RETRIEVAL: DESIGN AND SOURCES

Editor

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2. SIMILARITY-BASED, RELEVANCE-BASED AND INFERENCE-BASED MODELS

Suleiman Shammas Ali and Roslina Othman

ABSTRACT

This chapter explains the two most popular IR models: similarity-based and relevance / inference-based models. Similarity model refers to vector space model; while relevance and inference based model refers to probabilistic model. Similarity model projects the degree of similarity between the document and the query. Degree of similarity can be used to rank documents in a search result displayed to users. Vector model works on terms weighting. Probabilistic relevance model attempts to compute the probability that a document is relevant to the query. Probabilistic influence model looks into using a document to prove a query.

2.1 Introduction

Matching between the document (d) and the query (q) is major sub-component in an IR system. Boolean matches d and q; however, results would not be ranked by the Boolean model. Ranked-output can be achieved through similarity-based, relevance-based, and influence-based models. Vector space model computes the degree of similarity between document and query, an rank documents retrieved by decreasing order of similarity values. Probabilistic models rank documents by the decreasing order of the probability that a document is other relevant to or prove a query.